

CLASSIFICATION:

UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET								DATE:					
P-40								FEBRUARY 2004					
APPROPRIATION/BUDGET ACTIVITY						P-1 ITEM NOMENCLATURE							
OTHER PROCUREMENT, NAVY						Allison 501-K Gas Turbine (81GF) (0120)							
Program Element for Code B Items:						Other Related Program Elements							
BA-1: SHIPS SUPPORT EQUIPMENT													
	Prior Years	ID Code	FY	FY 2003	FY 2004	FY 2005	FY2006	FY2007	FY2008	FY2009		To Complete	Total
QUANTITY													
COST (In Millions)	47.1			\$13.2	\$12.8	\$22.3	\$22.3	\$17.2	\$17.3	\$17.6			\$169.8
SPARES COST (In Millions)													\$0.0

ALLISON 501-K GAS TURBINE (81GF) (0120)

The 501-K Series Gas Turbines are used to drive electrical generators in Ship Service Gas Turbine Generators (SSGTG). The 501-K17 is used on the CG-47 and DD-963 Class ships. The 501-K34 is an upgraded version used on the DDG-51 Class ships and is not interchangeable with the 501-K17.

A. 501-K34 Stock Rotating Spares (GF001)

The Stock Rotating Spares Program provides an engine as a single assembly for the replacement of an engine requiring depot repair. The current 501-K17 engine is being replaced by the upgraded (more power producing) K501-K34 engine commencing with the DDG-51 Class. The 501-K34 upgraded engine can only be replaced with another 501-K34 upgraded engine. The 501-K34 inventory objective is 20 units. 16 units have been procured through FY 2001 and 4 units are included in the budget from FY 2002- FY 2004. In addition, the RRC-250-KS4 gas turbine engine has been introduced into the DDG-51 Class Destroyers, as part of the starting system for the 501 K-34, commencing with DDG-78. A spare pool of 10 KS4 engines is required to ensure adequate sparing. 6 engines are included in the budget from FY 2003 thru FY 2005, procuring 2 engines each year. The remaining 4 additional engines will be procured in FY 2006 and FY 2007. In both FY 2003 thru FY 2005, one 501-K34 engine and two 250-KS4 engines will be procured. In the outyears of FY 2008 and FY 2009, since the K-34 engines will be approaching their midlife, a first and stage hot section replacement program will commence, where 25 units each year will have their hot sections replaced with components with improved coatings.

B. Modification Program (GF007)

Allison 501-K Gas Turbines are identified as the number one fleet issue by the Top Management Attention/Top Management Issues (TMA/TMI) Program, the Combatant Technical Issues Conference (CTIC), and the DDG-51 Top Tech Issue Program. Procurement of improved hardware for installation in the 501-K gas turbine is essential to increase engine reliability, Mean Time Between Removal (MTBR) and maintainability. Analysis of 501-K engineering performance data, TMA/TMI, Metrics, the DDG-51 Top Tech Issues, CTIC and the component improvement program has identified necessary improvements to correct 501-K deficiencies. The modifications will reduce failure rates of system components, improving 501-K and SSGTG readiness and address the Fleet's top maintenance and reliability issues. The additional requirement in FY 2003 and out will be used to resolve additional issues identified by the TMA/TMI, Metrics and the DDG-51 Top Tech Issues Programs. The specific additional issues addressed are Fuel Nozzles and Engine Controls.

CLASSIFICATION:

UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET		DATE:
P-40 CONTINUATION		FEBRUARY 2004
APPROPRIATION/BUDGET ACTIVITY OTHER PROCUREMENT, NAVY BA-1: SHIPS SUPPORT EQUIPMENT	P-1 ITEM NOMENCLATURE/LINE ITEM # <i>Allison 501-K Gas Turbine (81GF) (0120)</i>	
<p>C. Special Support Equipment (SSE) (GF009)</p> <p>Procurement of Gas Turbine SSE is required to provide increased SIMA and depot repair capability to support the DD-963, CG-47 and DDG-51 class ships. SIMA capability is enhanced by providing them SSE necessary to reduce engine change-outs and required to incorporate new modifications that will eliminate deficiencies identified through the TMA/TMI, Metrics and the DDG-51 Top Tech Issues Programs and enhance MTBR, reliability and maintainability. Procured SSE supports the depot by increasing repair capability and allowing installation of new modifications that will eliminate deficiencies identified through the TMA/TMI, Metrics and the DDG-51 top Tech Issues Programs and enhance MTBR, reliability and maintainability.</p> <p>D. Full Authority Digital Control (FADC) (GF010)</p> <p>Funding will be used to procure and install the replacement for the Local Operating Panel with the FADC, which will upgrade reliability and maintainability of the control system. These will be installed on both the DDG-51 and CG-47 class ships. Three FADC's are required on each ship.</p> <p>E. Production Engineering (GF830)</p> <p>The review and approval of any production contract technical documentation or the separate development of this documentation to include: Technical manuals, signal flow diagrams, PMS, production drawings, Provisioning Technical Documentation (PTD), and Allowance Parts Lists (APLs) and engineering in support of final design reviews.</p>		

CLASSIFICATION:

UNCLASSIFIED

WEAPONS SYSTEM COST ANALYSIS P-5						Weapon System								DATE: FEBRUARY 2004		
APPROPRIATION/BUDGET ACTIVITY Other Procurement, Navy BA 1: SHIPS SUPPORT EQUIPMENT						ID Code	P-1 ITEM NOMENCLATURE/SUBHEAD Allison 501K-Gas Turbine (81GF) (0120)									
COST CODE	ELEMENT OF COST	ID Code	TOTAL COST IN THOUSANDS OF DOLLARS													
			Prior Years	FY			FY 2003			FY 2004				FY 2005		
			Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	
			<u>98-02</u>													
GF001	501-K34/250-KS4		10,066				3	*	1,671	3	*	1,615	3	*	1,650	
GF007	MODIFICATION PROGRAM		33,235						7,442			7,044			15,358	
GF009	SPECIAL SUPPORT EQUIP (SSE)		2,556						250			250			250	
GF010	FULL AUTHORITY DIGITAL CONTROL		0				15	**247	3,700	15	**253	3,800	18	**272	4,900	
GF830	PRODUCTION ENGINEERING		1,319						99			105			113	
GRAND TOTAL			47,176			0			13,162			12,814			22,271	

DD FORM 2446, JUN 86

P-1 SHOPPING LIST
ITEM NO. 2

CLASSIFICATION:

CLASSIFICATION:

UNCLASSIFIED

UNCLASSIFIED

* GF001 Buying 1 501K34 Engine and 2 RRC250-V-KS4 Engine in FY 03 thru FY 05.

** Unit cost varies per ship class buying for DDG51 & CG47 Class.

CLASSIFICATION:

UNCLASSIFIED

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)					Weapon System			A. DATE FEBRUARY 2004		
B. APPROPRIATION/BUDGET ACTIVITY Other Procurement, Navy BA 1: Ships Support Equipment					C. P-1 ITEM NOMENCLATURE Allison 501-K Marine Gas Turbine 0120			SUBHEAD 81GF		
Cost Element/ FISCAL YEAR	QUANTITY	UNIT COST (000)	LOCATION OF PCO	RFP ISSUE DATE	CONTRACT METHOD & TYPE	CONTRACTOR AND LOCATION	AWARD DATE	DATE OF FIRST DELIVERY	SPECS AVAILABLE NOW	DATE REVISIONS AVAILABLE
<u>FY 03</u>										
GF001	1	1,271	NSWC, PHILA		RC/OPT	Rolls Royce Allison Indianapolis, IN	Aug 03	Feb 04	YES	
GF001	2	200	NSWC, PHILA		RC/OPT	Rolls Royce Allison Indianapolis, IN	Mar-03	Sep-03	YES	
GF010	15	**247	NSWC, PHILA		RC	Rolls Royce Allison Indianapolis, IN	Mar-03	Sep-03	YES	
<u>FY 04</u>										
GF001	1	1,205	NSWC, PHILA		RC/OPT	Rolls Royce Allison Indianapolis, IN	Mar-04	Sep-04	YES	
GF001	2	205	NSWC, PHILA		RC/OPT	Rolls Royce Allison Indianapolis, IN	Mar-04	Sep-04	YES	
GF010	15	**253	NSWC, PHILA		RC	Rolls Royce Allison Indianapolis, IN	Mar-04	Sep-04	YES	
<u>FY 05</u>										
GF001	1	1,220	NSWC, PHILA		RC/OPT	Rolls Royce Allison Indianapolis, IN	Mar-05	Sep-05	YES	
GF001	2	215	NSWC, PHILA		RC/OPT	Rolls Royce Allison Indianapolis, IN	Mar-05	Sep-05	YES	
GF010	18	**272	NSWC, PHILA		RC	Rolls Royce Allison Indianapolis, IN	Mar-05	Sep-05	YES	
<p>* GF001 Buying 1 501K34 Engine and 2 RRC250-V-KS4 Engine in FY 03 thru 05. ** Unit cost varies per ship class buying for DDG51 & CG47 Class.</p>										